

### Abstract

The invention relates to a rotary friction welding machine.

The rotary friction welding machine has a first rotating spindle (14) and a second non-rotating spindle, wherein a first component of the components being connected to one another is positioned on the first spindle (14) and a second component of the components being connected to one another is positioned on the second spindle.

According to the invention, several flywheel mass bodies are positioned on the rotary friction welding machine, wherein the flywheel mass bodies (34, 35) cooperate with the first rotating spindle (14) such that at least one of these flywheel mass bodies (35) can, as needed, be brought out of operating engagement or into operating engagement with the first rotating spindle (14), wherein both the flywheel mass bodies that are in operating engagement with the first rotating spindle (14), and the flywheel mass bodies that are out of operating engagement with said first rotating spindle are positioned on the rotary friction welding machine.

(Fig. 4)